

Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the application.

1. (currently amended) An electrical device comprising
 - (A) an element which
 - (1) has first and second surfaces and
 - (2) comprises a conductive polymer composition, and
 - (B) a first metal foil electrode which
 - (1) comprises
 - (a) a first surface having (i) a center line average roughness R_a μm as measured by using an interferometer, and (ii) a reflection density RD, the product R_a times RD being 0.5 to 1.6 μm , and
 - (b) a second surface, and
 - (2) is positioned so that the first surface of the electrode is in contact with the conductive polymer element.
 2. (original) A device according to claim 1 wherein R_a is 0.5 to 2.7 μm and RD is at least 0.5.
 3. (original) A device according to claim 1 wherein the conductive polymer composition comprises a polymeric component and dispersed therein a particulate conductive filler.
 4. (original) A device according to claim 3 wherein the polymeric component of the composition comprises a polyolefin or a fluoropolymer.
 5. (original) A device according to claim 1 wherein the conductive polymer composition exhibits PTC behavior.

6. (original) A device according to claim 1 wherein the first metal foil electrode comprises nickel or copper.
7. (original) A device according to claim 1, wherein the first surface of the first metal foil electrode comprises nickel.
8. (original) A device according to claim 1, further comprising a second metal foil electrode positioned so that the conductive polymer element is sandwiched between the first metal foil electrode and the second metal foil electrode.
9. (original) A device according to claim 1 wherein the device is a circuit protection device which has a resistance of at most 100 ohms.
10. (currently amended) An electrical device comprising
 - (A) an element comprising a conductive polymer composition, and
 - (B) a first metal foil electrode which
 - (1) is produced by
 - (a) providing a base metal foil having a first surface having a center line average roughness R_a as measured by using an interferometer of at most $0.45 \mu\text{m}$, and
 - (b) depositing material to provide protrusions onto the first surface of the base metal foil,
 - (2) comprises
 - (a) a first surface having (i) a center line average roughness $R_a \mu\text{m}$, and (ii) a reflection density RD, the product R_a times RD being at least $0.14 \mu\text{m}$, and
 - (b) a second surface, and
 - (3) is positioned so that the first surface of the electrode is in contact with the conductive polymer element.

11. (canceled)
12. (canceled)
13. (canceled)
14. (withdrawn) A process for making an electrical device, said process comprising
 - (A) providing an element comprising a conductive polymer composition,
 - (B) providing a first metal electrode having
 - (1) a first surface having a center line average roughness and a reflection density RD such that the product R_a times RD is at least 0.14 μm , and
 - (2) a second surface,
 - (C) positioning at least one crosslinking agent between the conductive polymer and the first surface of the first metal electrode, and
 - (D) securing the first surface of the metal electrode to the conductive polymer element with the crosslinking agent therebetween.
15. (withdrawn) A process according to claim 14 wherein the crosslinking agent is activated concurrently with the securing process.
16. (withdrawn) A process according to claim 14 wherein the crosslinking agent is activated by thermal or radiation means.
17. (currently amended) An electrical device comprising
 - (A) an element comprising a conductive polymer composition and
 - (B) in contact with the element, a metal electrode comprising
 - (1) a base metal foil comprising a first metal and

(2) first and second surfaces, said first surface comprising

- (a) protrusions having a maximum height of 1 μm , and
- (b) a reflection density RD of at least 0.6, and
- (c) the first metal.

18. (original) A device according to claim 17 wherein the metal electrode is produced by a process comprising

- (A) providing a base metal foil having first and second surfaces, and
- (B) pulse plating metal deposits onto at least the first surface of the foil using a pulse frequency of 10 to 1000 Hz.

19. (currently amended) A device as in claim 17, wherein the base first metal foil comprises copper or nickel and the metal deposits comprise copper or nickel.

20. (currently amended) An electrical device comprising

- (A) an element comprising a conductive polymer composition and
- (B) a metal electrode, the metal electrode comprising
 - (1) a base metal foil,
 - (2) a first surface which
 - (a) comprises densely spaced, fine, dendritic metal structures, and
 - (b) has a RD of 1.5 to 1.7, and
 - (c) ~~(b)~~ is in contact with the element, and
 - (3) a second surface.

21. (original) A device according to claim 20 wherein the metal electrode is produced by a process consisting essentially of

- (A) providing a base metal foil having a first surface and a second surface, and
- (B) depositing dendritic metal structures onto at least the first surface of the base metal foil by electrodepositing metal under diffusion limited conditions.

22. (original) A device according to claim 20, wherein the base metal foil comprises copper or nickel and the metal dendrites comprise copper or nickel.

23. (original) An electrical circuit which comprises

- (1) a source of electrical power;
- (2) a load; and
- (3) a circuit protection device according to claim 1 electrically connecting the source and the load.